REMARKS/ARGUMENTS

The amendment to the text of Paragraph **0004** of the specification is to correct a typographical error in reference to Fig. 1 that is obvious from the context of the text. Specifically, reference 20 has been changed to reference 26 of Fig. 1, representing a "network communications medium".

The amendment to the text of labeled element 112 of Fig. 5 is to correct the spelling of the abbreviation of "header" from "Har" to "Hdr".

Rejections under 35 U.S.C. §102

Claims 1, 7, 12, and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by Callon (US Patent 5,430,727). Applicants respectfully submit that the Examiner has misapplied Callon and respectfully traverses the Examiner's rejection of Claims 1,7, 12, and 18.

Callon teaches a method for routing TCP/IP and OSI 8473 data packets through a network of routers that may not all have the capability to handle both types of data packets (a mixed network). If a data packet is not compatible with a router on the data packet's route from source to destination, such a packet needs to be encapsulated within a data packet of compatible format. The encapsulation is then stripped from the data packet prior to arriving at a destination router that is capable of handling only the original, unencapsulated packet format. Such encapsulation and disencapsulation adds costs to data packet transmission in terms of transmission delay and equipment usage, in addition to the usual "per router traversed" cost incurred for non-mixed networks. Consequently, minimizing packet routing cost in a mixed network requires consideration of the number of encapsulations and disencapsulations required by a prospective route for a data packet, and not simply minimizing the number of routers traversed. Callon does not address the minimization of data structure size for keeping a record of received data packets until a complete, contiguous sequence of data packets has been received. Rather, Callon teaches examination of sequence numbers received separately from link status packets (LSPs) which are part of the packet data network's overhead traffic, but are not the sequence numbers of the received data packet as

recited in the Applicants' claims. The objectives, methods, and the test criteria taught by Callon are substantially different from those of the Applicants' present invention.

Regarding independent Claim 1, Callon teaches the exchange of special "sequence number" packets (part of network overhead traffic) among routers, containing sequence numbers of the most recently received link state packets (LSPs) from all routers in order to verify that all routers have the most recent version of the LSPs from the other routers on the network. (Col. 41, lines 41-46). Callon does not teach "reading a first sequence number from the received data packet" that corresponds to the sequence number of that received packet. Instead, Callon relates to reading sequence numbers of separately received link state packets (LSPs) for the purpose of verifying that all routers have the most recent versions of the LSPs.

Callon further teaches a method for the generation of packet routing trees consisting of sets of routers (nodes) and their interconnections, based on the proximity of nodes in the network, and information regarding the type of data packet format that each node is capable of processing. (Fig. 4A, 8B col. 34, lines 17-27). This is not the same as "determining whether the first sequence number [of a received packet] is contiguous with a sequence number range contained in a first preexisting node of a tree data structure" as recited in Applicants' claim 1. Callon neither discloses nor suggests such a step. Rather, Callon addresses the generation of a routing table (based on information from LSPs, network overhead packets) to indicate how a data packet is to be routed through a packet data network based on router connectivity and capability information.. In contrast, the Applicants' claim 1 addresses data storage structures and management for efficiently storing data packets and ordering them according to their transmission sequence numbers for subsequent reassembly into an original message. Callon further teaches a method of iteratively generating packet routing tables by comparing newly examined neighbors with previously examined neighbors, and deleting the latter if the newly examined neighbor is "closer", relating to lowered packet transmission costs. (Fig. 8B, lines 25-27). Callon, however, does not teach "if the new sequence number is not contiguous with the sequence number range, creating a new node that contains the new sequence number" as recited by Claim 1. Callon's step 344 in Fig. 8B is a test that compares routing table path lengths, and is not related to whether or not "if the new [data packet transmission]

sequence number is contiguous with the sequence number range" as recited by Claim 1. Accordingly, Applicants respectfully submit Callon does not anticipate claim 1.

Similarly, with respect to independent claims 7 and 18, Callon neither discloses nor suggests the step of "reading a new sequence number from *the received data packet*", as recited in claims 7 and 18 (emphasis added). Rather, Callon teaches a method determining which router a received data packet should be forwarded to by examining separately received link state packets (LSPs), which are not the same as "the received data packet." As discussed above, Callon examines the sequence numbers of the most recently received link state packets (LSPs) from all routers to verify that all routers have the most recent version of the LSPs from the other routers on the network. (Col. 41, lines 41-46). Callon is not related to examining the sequence numbers of received data packets for the purpose of keeping track of packets belonging to a complete message or data transmission. Accordingly, Applicants respectfully submit Callon fails to anticipate claims 7 and 18.

Similarly, with respect to independent claim 12, as discussed above for claims 1, 7, and 18, Callon's teaching relates to examination of sequence numbers of LSP's for the purpose of efficiently routing received data packets through a network of nodes (e.g., routers). As explained by Callon (e.g., col. 41, lines 41-46), the purpose of examining the sequence numbers of the LSP is to verify that all routers have the most recent version of the LSPs from the other routers. These sequence numbers are not the sequence numbers of "the received data packets" as recited in claim 12. Accordingly, Applicants respectfully submit Callon does not anticipate claim 12.

Claim 23 was rejected under 35 U.S.C. §102(b) as being anticipated by Bialkowski et al. (US Patent 5,463,777). Applicants have canceled claim 23 and, therefore, the Examiner's rejection of claim 23 is now moot.

Rejections under 35 U.S.C. §103

Claims 2, 8, 13, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Callon (US Patent 5,430,727) in view of Bialkowski et. al. (US Patent 5,463,777). Applicants respectfully submit that the Examiner has misapplied Callon and Bialkowski et. al. and respectfully traverse the Examiner's rejection of Claims 2,8, 13, and 19.

As discussed above, Callon teaches examination of sequence numbers of link state packets (LSP's) for the purpose of efficiently routing received data packets, which are separate from the LSP's, through a network of nodes (e.g., routers) and verifying that all routers have the most recent version of the LSPs from other routers in the network. Callon does not teach examining the sequence numbers of received data packets for the purpose of tracking whether all the packets of an intended data transmission have been received. Nor does Bialkowski et al. teach examining sequence numbers of received data packets for such a purpose. Rather, Bialkowski et al. relates to a method and system for searching for and examining "key values" contained in an information portion (e.g., header) of a data packet to determine "the processing to be used for the packet, and thereafter processing the packet in accordance with the processing results just obtained. . . . If a key included in the information containing portion of the packet falls within a predefined range, the search algorithm provides user data and filter mask data for use by the packet processing system." (See, e.g., col. 1, lines 43-62). Thus, Bialkowski et al. is completely unrelated to examining sequence numbers of received data packets for the purpose of tracking whether all the packets of a data transmission have been received, as taught by the present invention.

In particular, neither Callon nor Bialkowski, nor their combination, teach "determining whether [a] first sequence number [of a received data packet] is contiguous with a sequence number range contained in a first preexisting node of a tree data structure," as recited in claim 1. Additionally, neither Callon nor Bialkowski, nor their combination, teach "if the new sequence number is not contiguous with the sequence number range, creating a new node that contains the new sequence number," as further recited in claim 1. Furthermore, neither Callon nor Bialkowski, nor their combination, teach "if the new sequence number is contiguous with the sequence number

range, updating the first preexisting node such that the new sequence number becomes a new boundary value for the sequence number range contained in the first preexisting node," as further recited in claim 1. Thus, the combination of Callon and Bialkowski completely fails to teach the invention claimed by claim 1 of the present application for patent. Since claim 2 depends from claim 1, Applicants respectfully submit that the combination of Callon and Bialkowski also fails to make obvious claim 2.

Independent claims 7, 12 and 18 contain similar limitations as those discussed above for claim 1. Consequently, Applicants respectfully submit that the combination of Callon and Bialkowski also fails to make obvious these claims. Since dependent claims 8, 13 and 19 are dependent upon claims 7, 12 and 18, respectively, Applicants submit claims 8, 13 and 19 are also patentable over Callon in view of Bialkowski.

Claims 4, 5, 9, 10, 15, 16, 20, and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Callon (US Patent 5,435,727) in view of Boyd (6,735,647). Applicants respectfully submit that the combination of Callon and Boyd does not render obvious claims 4, 5, 9, 10, 15, 16, 20 and 21.

In particular, neither Callon nor Boyd, nor their combination, teach "determining whether [a] first sequence number [of a received data packet] is contiguous with a sequence number range contained in a first preexisting node of a tree data structure," as recited in claim 1. Additionally, neither Callon nor Boyd, nor their combination, teach "if the new sequence number is not contiguous with the sequence number range, creating a new node that contains the new sequence number," as further recited in claim 1. Furthermore, neither Callon nor Boyd, nor their combination, teach "if the new sequence number is contiguous with the sequence number range, updating the first preexisting node such that the new sequence number becomes a new boundary value for the sequence number range contained in the first preexisting node," as further recited in claim 1. Thus, the combination of Callon and Boyd completely fails to teach the invention claimed by claim 1 of the present application for patent. Since claims 4 and 5 depend from claim 1, Applicants

respectfully submit that the combination of Callon and Boyd also fails to render obvious claims 4 and 5.

Independent claims 7, 12 and 18 contain similar limitations as those discussed above for claim 1. Consequently, Applicants respectfully submit that the combination of Callon and Boyd also fails to render obvious these independent claims. Since dependent claims 9, 10, 15, 16, 20, and 21 are dependent upon claims 7, 12 and 18, respectively, Applicants submit claims 9, 10, 15, 16, 20, and 21 are also patentable over Callon in view of Boyd.

Claims objected to as being dependent upon rejected claims

Dependent claims 3, 6, 11, 14, 17, 22, and 24 were objected to as being dependent upon rejected claims but deemed allowable if rewritten in independent form including all the limitations of their base claims and any intervening claims. sApplicants respectfully submit that claims 3, 6, 11, 14, 17, and 22 are in condition for allowance since the independent claims upon which they are based are believed to be allowable over the Examiner's cited art, as discussed above.

As requested by the Examiner, Applicants have amended claim 24 to include the limitations of its base claim, claim 23 (now cancelled). Accordingly, Applicants respectfully submit that claim 24, as amended, is now in condition for allowance. Applicants have further amended the original language of Claim 24 for the sole purpose of clarifying its intended meaning. Applicants submit these clarifying amendments are unrelated to the Examiner's prior art rejections.

In view of the above, the Applicants respectfully submit that all of the pending claims, claims 1-22 and 24, are in immediate condition for allowance. sApplicants have carefully considered all of the points raised in the Office Action and believe that the Examiner's concerns have been addressed as described herein. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds that the application is not in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5752 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. 491442001700.

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Respectfully submitted,

By _____

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APPENDIX

ATTACHED FIG 5 MARKUP AND CORRECTED FIG 5

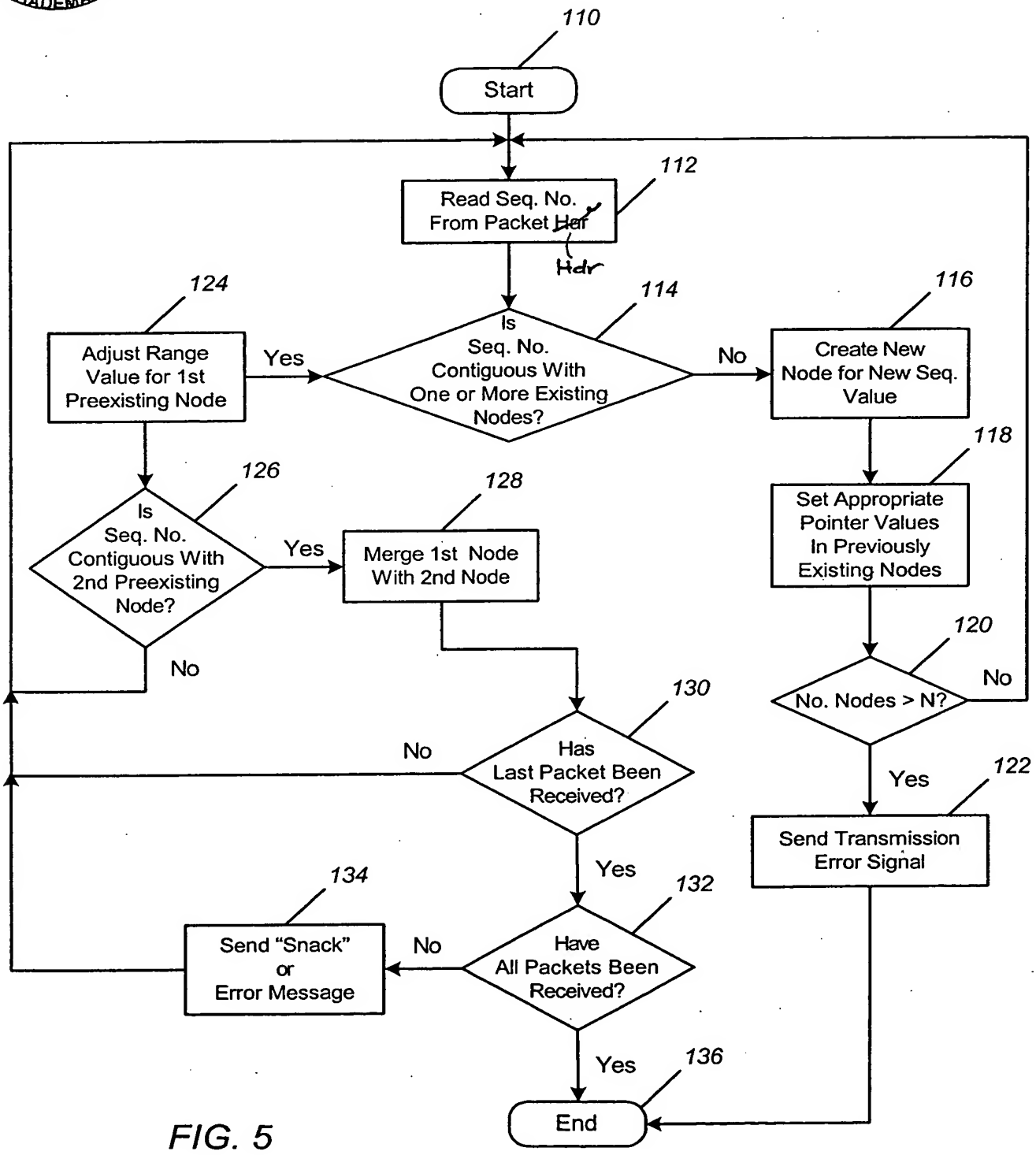

FIG. 5

AMENDMENTS TO THE DRAWINGS

Please change the text in the block labeled 112 of Fig. 5 to "Read Seq. No. from Packet Hdr" from "Read Seq. No. from Packet Har" as indicated in the attached marked up copy. A corrected copy of Fig. 5 is also attached.